NemSyringeAxis Tango Cpp Class

Contents :

- Description
- Properties
- Commands
  - State
  - Status
  - ResetMotor
  - Calibrate
  - StopMove
  - Home
  - ConstantFlow
- Attributes
  - Diameter
  - Position
  - UnitLimitMax
  - UnitLimitMin
  - SlewRate
  - Dose
  - UnitCalibration
- States

NemSyringeAxis Class Identification :

Contact	: at desy.de - johannes.blume
Class Family	: Motion
Platform	: Unix Like
Bus	: Not Applicable
Manufacturer	: none
Manufacturer ref.	:

NemSyringeAxis Class Inheritance :

- Tango::DeviceImpl
  - NemSyringeAxis

NemSyringeAxis Class Description :

Device to control a single neMESYS Syringe Pump

NemSyringeAxis Properties :

There is no class properties

Device Properties			
Name	**Description**	**Type**	**Default Value**
Controller	Controller device name	String	none
Syringe	Syringe number (1 => x)	int	none

NemSyringeAxis Class Commands				
Name	**Input type**	**Output type**	**Level**	**Description**
State	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its device_state data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its device_status data member) and returns it to the caller.
ResetMotor	DEV_VOID	DEV_VOID	OPERATOR	None.
Calibrate	DEV_DOUBLE	DEV_LONG	OPERATOR	None.
StopMove	DEV_VOID	DEV_VOID	OPERATOR	None.
Home	DEV_VOID	DEV_LONG	OPERATOR	None.
ConstantFlow	DEV_VOID	DEV_LONG	OPERATOR	None.

Command State :

This command gets the device state (stored in its device_state data member) and returns it to the caller.

State Definition		
Input Argument	Tango::DEV_VOID	none
Output Argument	Tango::DEV_STATE	Device state
DisplayLevel	OPERATOR	..

Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Status :

This command gets the device status (stored in its device_status data member) and returns it to the caller.

Status Definition		
Input Argument	Tango::DEV_VOID	none
Output Argument	Tango::CONST_DEV_STRING	Device status
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ResetMotor :

ResetMotor Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• MOVING	..

Command Calibrate :

Calibrate Definition		
Input Argument	Tango::DEV_DOUBLE	
Output Argument	Tango::DEV_LONG	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• MOVING • FAULT	..

Command StopMove :

StopMove Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Home :

Home Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_LONG	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• MOVING • FAULT	..

Command ConstantFlow :

ConstantFlow Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_LONG	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

NemSyringeAxis Class Attributes							
Name	**Inherited**	**Abstract**	**Attr. type**	**R/W type**	**Data type**	**Level**	**Description**
Diameter	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Syringe diameter in mm
Position	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Syringe volume in ÂµL
UnitLimitMax	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Maximum syringe volume in ÂµL

UnitLimitMin	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Minimum syringe volume in ÂµL
SlewRate	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	Syringe flow rate in ÂµL/sec
Dose	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	OPERATOR	
UnitCalibration	false	false	Scalar	READ_WRITE	Tango::DEV_DOUBLE	OPERATOR	

There is no dynamic attribute defined.

Attribute Diameter :

Syringe diameter in mm

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Syringe diameter
unit	mm
standard unit	mm
display unit	mm
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event	false

by user code	

Attribute Position :

Syringe volume in ÂµL

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Syringe volume
unit	ÂµL
standard unit	ÂµL
display unit	ÂµL
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute UnitLimitMax :

Maximum syringe volume in ÂµL

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Maximum syringe volume
unit	ÂµL
standard unit	ÂµL
display unit	ÂµL
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute UnitLimitMin :

Minimum syringe volume in ÂµL

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled

Attribute Properties	
label	Minimum syringe volume
unit	ÂµL
standard unit	ÂµL
display unit	ÂµL
format	
max_value	
min_value	
max_alarm	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative	Not

Memorized	true
Write hardware at init.	true
Read allowed for	All states
Write allowed for	All states

min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Change	set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute SlewRate :

Syringe flow rate in ÂµL/sec

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Read allowed for	All states
Write allowed for	All states

Attribute Properties	
label	Syringe flow rate
unit	ÂµL/sec
standard unit	ÂµL/sec
display unit	ÂµL/sec
format	%9.2f
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute Dose :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_BOOLEAN
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states
Write NOT allowed for	• MOVING • FAULT

Attribute Properties
label
unit
standard unit
display unit
format
max_value
min_value
max_alarm
min_alarm
max_warning
min_warning
delta_time
delta_val

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute UnitCalibration :

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_DOUBLE

Attribute Properties
label
unit
standard unit

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set

Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Read allowed for	All states
Write allowed for	All states

display unit
format
max_value
min_value
max_alarm
min_alarm
max_warning
min_warning
delta_time
delta_val

Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

NemSyringeAxis Class States	
Name	**Description**
ON	
MOVING	
FAULT	